

## ABSTRACT

The object of the present invention is to provide a catalyst which can produce an  $\alpha,\beta$ -unsaturated carboxylic acid through liquid-phase oxidation of an olefin or an  $\alpha,\beta$ -unsaturated aldehyde in good reaction performance, a method for producing the catalyst, and a method for producing an  $\alpha,\beta$ -unsaturated carboxylic acid by using the catalyst. The present invention resides in a catalyst for producing an  $\alpha,\beta$ -unsaturated carboxylic acid, wherein a metal is supported on a carrier with a total pore volume of 0.40 to 1.50 cc/g as measured by nitrogen gas adsorption method, or wherein palladium with an average particle diameter in the range of 1 to 8 nm is supported on the carrier.